

ANALYTICAL REPORT

F08-157

Lot #: F8J080292 SDG #: W05531

Mike Neely

CH2M Hill Plateau Remediation PO Box 1600, MS B6-06 Richland, WA 99352

DECEIVED

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EDMC

TESTAMERICA LABORATORIES, INC.

Michael C. Franks Project Manager

November 5, 2008

TestAmeric

CASE NARRATIVE

THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

P.O. Box 1600 MSIN B6-06

Richland, Washington 99352

November 5, 2008 Attention: Mike Neely

SDG

: W05531

Number of Samples

: two samples

Sample Matrix

: water

Data Deliverable

: Summary

Date SDG Closed

: October 8, 2008

II. Introduction

On October 8, 2008, two water samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

Deviation from Request: None

IV. Definitions

OCBLK-

Quality Control Blank, Method Blank

QCLCS-

Quality Control Laboratory Control Sample, Blank Spike

DUP-

Laboratory Duplicate

MS-

Matrix Spike

MSD-

Matrix Spike Duplicate

V. Comments

General

The following SAFs are associated with this SDG: F08-157

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix OC were analyzed with a LCS/LCS duplicate.



CH2M Hill Plateau Remediation Company.

November 5, 2008 SDG: W05531

There were no observations or nonconformances for the following methods:

ICP Metals
Total Organic Carbon
Hexavalent Chromium

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Michael Franks

St. Louis Project Manager

METHODS SUMMARY

F8J080292

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Hexavalent Chromium	SW846 7196A	SW846 7196A
Total Organic Carbon	SW846 9060	SW846 9060
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	

References:

SW846

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8J080292

WO # SAMPLE	CLIENT SAMPLE ID	SAMPLED DATE	SAMP
K0E4G 001 K0E4L 002	B1X1K9 B1X1K8	10/06/08	

NOTE (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

	Fluor I	Hanford Inc. W0553	,	CHAIN (OF CUSTODY	/SAMPLE AN	IALYSIS RE	QUEST		FO	8-157-003		PAGE 1	OF 1
OLLECTOR	MIT	intyre, Rust	TRENT, SJ	TACT		TELEPHONE NO. PROJECT COORI 373-5869 WIDRIG, DL			PR	ICE CODE	7N	TUI	DATA	
AMPLING LO	OCATION	1-17-1	PROJECT DESIGNATION					SAF NO.			IR QUALITY 45 Days / 45			
6387 GW-00			Chromium Source Investigation - North Plume Water FIELD LOGBOOK NO. P515 ACTUAL SAMPLE DEPTH				F08-157		Days					
E CHEST N							DEPTH	COA MET			ETHOD OF SHIPMENT			
5WS	1-0	7	H-F-W-376.3 92.4'					123445ES10 GC			OVERNMENT VEHICLE			
IIPPED TO			OFFSITE PROPERTY NO.				BILL OF LADING/AIR BILL NO.			_				
estAmerica 1	Incorporated, F	Richland	SEE PTR					SEE PTR 7911 5671 9875						
MATRIX* POSSIBLE SAMPLE HAZARDS/ REMARKS -Air L=Drum Contains Radioactive Material at concentrations		PRESERVATION		Cool~4C		1								
that may or may not be regulated for transportation per 49 CFR / IATA Dangerous lids Goods Regulations but are not releasable per				aG	10.081	00								
Liquid •OII •SoII =Sediment	DOE Order 54	100.5 (1990/1993)	NO. OF COM	ITAINER(S)	1	w,								
=Sediment =Tissue =Vegitation =Water		:	VOL	UME	500mL	1 W/C								
I=Wipe =Other	SPECIAL	HANDLING AND/OR STORAGE	SAMPLE A	NALYSIS	Chromium Hex - 7196;									
		(ot#			028946	Mark Transaction								
	LE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	WHITE IN					471-1				
X1K8		WATER	10-06-04	09:15	V							-		
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FINAL SAM DISPOSITI		OSAL METHOD	: '				DI	SPOSED BY					DATE/TIME	

Track Shipments/FedEx Kinko's Orders Detailed Results

Tracking number Signed for by Ship date Delivery date 791156719875 A.BRUNSON Oct 7, 2008 Oct 8, 2008 9:09 AM Reference Destination Delivered to Service type Weight

M8200 30062 ES10 EARTH CITY, MO Shipping/Receiving Priority Overnight 44.0 lbs.

Status

Delivered

Signature image available

Yes

Date/Time Activity

Oct 8, 2008

9:09 AM Delivered
7:32 AM On FedEx vehicle for delivery
7:26 AM At local FedEx facility
5:45 AM At dest sort facility
4:58 AM Departed FedEx location

Oct 7, 2008

5:37 PM Left FedEx origin facility
2:43 PM Picked up
10:19 AM Package data transmitted to FedEx

Location

EARTH CITY, MO
EARTH CITY, MO
EARTH CITY, MO
BERKELEY, MO
MEMPHIS, TN
PASCO, WA
PASCO, WA

Your name:		Your e-mail address	SS:	Malitin-property page.
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Conditions

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Test/	4m	ner	
10017	71 1		
THE LEADER I	N ENVIRO	ONMENTA	L TESTING

		7 10 7	
nt: Llan	hord COC/RFA No:	Condition Upon Rece	
te No: 810	78, 81085 Initiated By:	H	Time: 0915
		oping Information	
per Name:	7		Multiple Packages Y N Sample Temperature (s):*
7911 54	71 9875 6.		1. 3 6.
	7. 8.		
	9.		4. 9.
to delicate the	10.		5. 10. eived at 4°C ± 2°C- If not, note contents below. Temperature
	es correspond to Numbered Sample Temp lines "for yes, "N" for no and "N/A" for not applicable):		ect the following: Metals-Liquid or Rad tests- Liquid or Solids
DN_	Are there custody seals present on the cooler?	8. (¥) N	Are there custody seals present on bottles?
Y N N/A	be tampered with?	9. Y (N) N/A	Do custody seals on bottles appear to be tampere with?
Ø N	Were contents of cooler frisked after opening, but before unpacking?	10. (Ŷ) N N/A	Was sample received with proper pH ¹ ? (If not, make note below)
(y) N	Sample received with Chain of Custody?	11. Y N	If N/A- Was pH taken by original TestAmerica lab?
D N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. (Y) N	Sample received in proper containers?
Y 6	Was sample received broken?	13. Y N N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
N N DOE-AL (Pantex, I	Is sample volume sufficient for analysis? ANL, Sandia) sites, pH of ALL containers received.	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received? T VOA, TOX and soils.
N OOE-AL (Pantex, I	Is sample volume sufficient for analysis?	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received?
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N N DOE-AL (Pantex, I	Is sample volume sufficient for analysis? ANL, Sandia) sites, pH of ALL containers received.	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received? T VOA, TOX and soils.
N N DOE-AL (Pantex, I	Is sample volume sufficient for analysis? ANL, Sandia) sites, pH of ALL containers received.	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received? T VOA, TOX and soils.
N DOE-AL (Pantex, I es: (DC	Is sample volume sufficient for analysis? ANL, Sandia) sites, pH of ALL containers received.	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received? T VOA, TOX and soils.
N DOE-AL (Pantex, I	Is sample volume sufficient for analysis? ANL, Sandia) sites, pH of ALL containers receive FOB-157-003, OOY, FO	14. Y N	Yes, note sample ID's below) Was Internal COC/Workshare received? T VOA, TOX and soils.

METALS

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B1X1K9

TOTAL Metals

Lot-Sample #...: F8J080292-001

Matrix....: WATER

Date Sampled...: 10/06/08 Date Received..: 10/08/08

REPORTING PREPARATION-WORK PARAMETER RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # Prep Batch #...: 8304194

10.0 ug/L Chromium ND SW846 6010B 10/30-11/03/08 K0E4G1AA

Dilution Factor: 1 MDL.......... 3.1

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F8J080292

Matrix....: WATER

REPORTING

PREPARATION-

WORK

LIMIT UNITS RESULT

METHOD

ANALYSIS DATE ORDER #

Chromium

ND

MB Lot-Sample #: F8J300000-194 Prep Batch #...: 8304194 10.0 ug/L

SW846 6010B

10/30-11/03/08 K1XMN1AA

Dilution Factor: 1

NOTE(S):

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F8J080292

Matrix....: WATER

SPIKE MEASURED PERCNT PREPARATION- WORK

PARAMETER AMOUNT AMOUNT UNITS RECVRY METHOD ANALYSIS DATE ORDER #

LCS Lot-Sample#: F8J300000-194 Prep Batch #...: 8304194

Chromium 500 509 ug/L 102 SW846 6010B 10/30-11/03/08 K1XMN1AC

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SDG# W05531

MATRIX SPIKE SAMPLE DATA REPORT

Client Lot #...: F8J080292

Matrix..... WATER

Date Sampled...: 10/06/08

Date Received..: 10/08/08

SAMPLE SPIKE MEASRD PERCNT PREPARATION- WORK

PARAMETER AMOUNT AMT AMOUNT UNITS RECVRY RPD METHOD ANALYSIS DATE ORDER #

MS Lot-Sample #: F8J080292-001 Prep Batch #...: 8304194

Chromium

ND 100 100 ug/L 100 SW846 6010B 10/30-11/03/08 K0E4G1AE ND 100 97.9 ug/L 98 2.6 SW846 6010B 10/30-11/03/08 K0E4G1AF

Dilution Factor: 1

NOTE(S):

WET CHEMISTRY

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B1X1K9

General Chemistry

Lot-Sample #...: F8J080292-001 Work Order #...: K0E4G

Matrix..... WATER

Date Sampled...: 10/06/08

Date Received..: 10/08/08

PREPARATION-PREP RL UNITS METHOD ANALYSIS DATE BATCH # PARAMETER RESULT SW846 9060 10/22/08 Total Organic 10.6 2.0 mg/L 829,7381

Carbon

Dilution Factor: 2 MDL..... 0.40

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: BlX1K8

General Chemistry

Lot-Sample #...: F8J080292-002 Work Order #...: K0E4L

Matrix..... WATER

Date Sampled...: 10/06/08

Date Received..: 10/08/08

PREPARATION-PREP RL UNITS RESULT METHOD ANALYSIS DATE BATCH # ND 10.0 ug/L SW846 7196A 10/08/08 Hexavalent 8283288 Chromium

Dilution Factor: 1 MDL..... 2.0

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8J080292

Matrix..... WATER

PARAMETER	RESULT	REPORTING	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium		Work Order	#: KOGQMLAA	MB Lot-Sample #:	F8J090000-288	
	ND	10.0 Dilution Fact	ug/L for: 1	SW846 7196A	10/08/08	8283288
Total Organic Carbon		Work Order	#: K1GM31AA	MB Lot-Sample #:	F8J230000-381	
	ND	1.0 Dilution Fact	mg/L or: 1	SW846 9060	10/22/08	8297381

NOTE(S):

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: F8J080292

Matrix..... WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY		METHOL)		RATION- SIS DATE	PREP BATCH #
Total Organi	С	WO#	K1GM31AC	LCS/K1	EME EME	-LCSD	LCS	Lot-Sample#:	F8J23000	0-381
Carbon										
	8.00	7.91	mg/L	99		SW846	9060	10	/22/08	8297381
	8.00	7.93	mg/L	99	0.29	SW846	9060	10	/22/08	8297381
		D	lution Fact	or: 1						

NOTE(S):

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F8J080292

Matrix....: WATER

PARAMETER Hexavalent	SPIKE AMOUNT	MEASURED AMOUNT Wo		PERCNT RECVRY KOGQMI	***	O CS Lot-Sample	PREPARAT ANALYSIS #: F8J09	DATE	PREF BATCH # 88
Chromium	50.0	49.0	ug/L		SW846	7196A	10/08	/08	8283288

NOTE(S):

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F8J080292

Matrix..... WATER

Date Sampled...: 10/06/08

Date Received..: 10/08/08

PARAMETER Hexavalent Chromium	SAMPLE AMOUNT		MEASURED AMOUNT UNITS Work Order #:	PERCENT RECOVERY K0E4L1AD	METHOD MS Lot-	PREPARATION- ANALYSIS DATE Sample #: F8J080	PREP BATCH # 0292-002
	ND	50.0	47.8 ug/L Dilution Factor: 1	96	SW846 7196A	10/08/08	8283288
Total Organi Carbon	La		Work Order #:	K0E4G1AG	MS Lot-	Sample #: F8J080	292-001
	10.6	10.0	21.1 mg/L Dilution Factor: 2	105	SW846 9060	10/22/08	8297381
Total Organi Carbon	la		Work Order #:	KOHDELAE	MS Lot-	Sample #: F8J090	0224-001
	16.1	10.0	27.3 mg/L Dilution Factor: 2	112	SW846 9060	10/23/08	8297381

NOTE(S):

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8J080292 Work Order #...: K0E4L-SMP Matrix.....: WATER

K0E4L-DUP

DUPLICATE RPD PREPARATION- PREP RESULT UNITS RPD LIMIT METHOD PARAM RESULT ANALYSIS DATE BATCH # Hexavalent SD Lot-Sample #: F8J080292-002 Chromium ND ug/L 0 (0-20) SW846 7196A 10/08/08 8283288 ND

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8J080292 Work Order #...: K0E4G-SMP Matrix.....: WATER

Date Sampled...: 10/06/08 Date Received..: 10/08/08

K0E4G-DUP

PARAM RESULT Total Organic	DUPLICATE RESULT	UNITS	RPD_	RPD LIMIT	METHOD SD Lot-Sample #:	PREPARATION- ANALYSIS DATE F8J080292-001	PREP BATCH #
Carbon	10.2	mg/L	4.7	(0-20)	SW846 9060	10/22/08	8297381
		Dilution Fa	ctor: 2			,,	